BLM BEAUTY BAY RECREATION SITE (PWSNO 1280281)
SOURCE WATER ASSESSMENT REPORT

February 24, 2003

State of Idaho
Department of Environmental Quality

SOURCE WATER ASSESSMENT FOR BLM BEAUTY BAY RECREATION SITE

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For non-community transient water systems like the Beauty Bay Recreation Site, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for BLM Beauty Bay Recreation Site* describes factors used to assess the well's susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use, well site characteristics and potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for BLM Beauty Bay Recreation Site is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction. The BLM Beauty Bay Recreation Site well provides drinking water for a picnic and scenic hiking area north of Highway 97, and irrigation water for a tree farm north of the highway at the top of the Beauty Bay grade. The well was drilled in April 1997 to a depth of 352 feet and produces about 21 gallons per minute. The 8-inch steel well casing extends from 24 inches above grade to 75 feet below the surface where it terminates in shale. A 6-inch PVC liner extends from 5 feet below the surface to 350 feet, with perforation from 270 to 350 feet. A 24-foot deep surface seal extends through 16 feet of clay to terminate in a stratum of clay mixed with shale. Water was first encountered between 193 and 230 feet below the surface. The static water level is 48 feet below ground.

Well Site Characteristics. Wooded hillsides in the eastern portion of the 1000-foot radius delineated around the Beauty Bay Recreation Site well are classified as moderately well drained to well drained. The flats contained in the western 28 per cent of the delineated area are considered poorly to moderately well drained. At the well site, solid shale is the predominant material above the water table

Potential Contaminant Inventory. About half of the land inside the recharge zone delienated for the Beauty Bay Recreation Site well is forested. BLM maintains an irrigated tree farm on the hillside on the opposite side of the highway from the recreation area. Hay is grown in fields to the west of the well.

Water Quality History. Baseline testing of the well the month after it was drilled showed the presence of dichloromethane (Maximum Contaminant Level = 5.0 µg/l) at a concentration of 2.73 µg/l; chloroform (MCL= 100µg/l) at a concentration of 5.64 µg/l and toluene (MCL = 1000 µg/l) at a concentration of 1.06 µg/l. The presence of any amount of a regulated volatile organic compound in a sample from a well usually results in a high susceptibility ranking. In this case however, the amounts and types of chemicals in the water and the date when the sample was drawn suggest that the contaminants were introduced during construction, and are not present in the ground water itself. The chloroform may have been present as a by-product of disinfection of the well with chlorine. Dichloromethane and toluene are common solvents.

Nitrate has not been detected in annual sampling. The system test monthly during its operating season for total coliform bacteria. Bacteria have been absent from all samples.

Susceptibility to Contamination. The BLM Beauty Bay Recreation Site well ranked moderately susceptible to all classes of regulated contaminants. Hydrologic sensitivity factors related local geology added the most points to the final susceptibility scores. The susceptibility analysis for your well shows how your well was scored. Formulas used to compute the final susceptibility scores are at the bottom of the worksheet.

Source Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

BLM Beauty Bay Recreation Site water system was in good condition and in compliance with the *Idaho Rules for Public Drinking Water Systems* when it was inspected in 1999. The drinking water system is isolated from the irrigation system for the seed nursery with a pressure vacuum breaker. The water is tested monthly instead of quarterly during the operating season. Continuing to operate and maintain the system as it has been in the past should ensure continuation of good water quality for the recreation site.

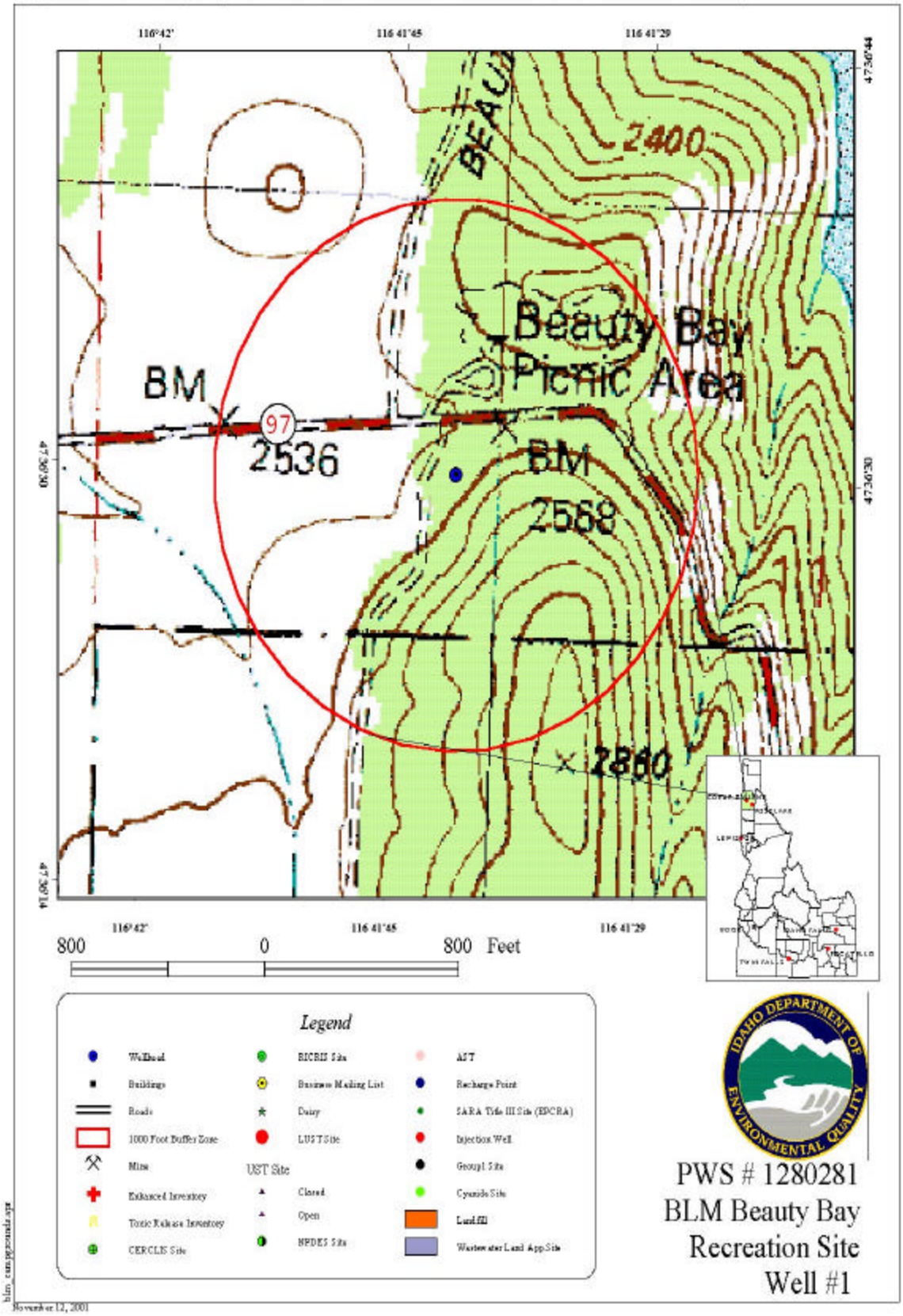
Assistance. Public suppliers and users may call the following offices with questions about this assessment and to request help with drinking water protection planning.

Coeur d'Alene Regional DEQ Office	(208) 769-1422
State IDEQ Office	(208) 373-0502
DEQ Website:	www.deq.state.id.us

Water suppliers may contact Melinda Harper of the Idaho Rural Water Association (208) 343-7001 for assistance with drinking water protection strategies.

Idaho Rural Water Association Website:	www.idahoruralwater.com
Home * A * Syst Website:	www.uwex.edu/homeasyst

Figure 1. BLM Beauty Bay Recreation Site Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name : **BLM BEAUTY BAY REC SITE** Well # : **WELL #1**

Public Water System Number : **1280281** 11/12/02 7:57:29 AM

1. System Construction		SCORE			
Drill Date	4/8/97				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	1999			
Well meets IDWR construction standards	YES	0			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	YES	0			
Highest production 100 feet below static water level	YES	0			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		**0**			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	NO	0			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		**5**			
		IOC	VOC	SOC	Microbial
3. Potential Contaminant / Land Use		Score	Score	Score	Score
Land Use Zone	Tree Farm, Hay fields	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score		**2**	**2**	**2**	**2**
Potential Contaminant / Land Use -					
Contaminant sources present (Number of Sources)	YES	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leacheable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
1000-Foot Radius contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use 1000-Foot Radius	25 to 50% Irrigated Agricultural Land	2	2	2	2
Total Potential Contaminant Source / Land Use Score - 1000-Foot Radius		**5**	**5**	**5**	**4**
Cumulative Potential Contaminant / Land Use Score		**7**	**7**	**7**	**6**
4. Final Susceptibility Source Score		**7**	**7**	**7**	**7**
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

0 - 5 Low Susceptibility
6 - 12 Moderate Susceptibility
> 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ? Superfund? is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.